

REMARKS

The rejection under 35 U.S.C. § 102(b) as anticipated by U.S. 4,552,691 (Shoji et al), is respectfully traversed.

The present invention is drawn to particles comprising a metal particle or a metal-compound particle and a solvent, and a conductive paste prepared from such particles, wherein the metal or metal-compound particle is wetted by the solvent, the solvent is compatible with an organic compound and insoluble in water, and the particles are prepared by a process comprising adding the solvent to undried metal or metal-compound particles which have been washed with water, thereby replacing the water by the solvent.

Shoji et al discloses an electrically conductive paste comprising metal fine powders of particular metals, and a vehicle component such as terpineol, butylcarbitol, ethyl cellulose, etc. (Abstract). The metal fine powders “can be easily obtained by a conventional manner” (column 2, lines 60-61). Shoji et al discloses that the vehicle functions to uniformly disperse the metal fine powders, to have appropriate viscosity and surface tension on use and to smoothly diffuse on the substrate surface (column 3, lines 26-29). Shoji et al further discloses that a surfactant may be added in order to improve compatibility with the metal powders and improve dispersibility (column 3, lines 34-36).

As described in the specification herein, with regard to metal powder made by the prior art manufacturing methods, the metal powder is first washed with water and is then dried. The conductive paste is then prepared by dispersing the dried metal powder into an organic vehicle and an organic solvent. It can thus be presumed that this is what one skilled in the art would understand is “a conventional manner.”

In response to previous arguments made by Applicants that they have shown significant improvement by using the present invention compared to the prior art, which used

such metal particles in dried form, the Examiner finds that the comparative data does not show what effect the presence of a surfactant has.

In reply, there is no reason to believe that the presence of the surfactant would cause Shoji et al's vehicle component to wet each of Shoji et al's metal fine powder particles to produce a particle having a structure as shown for Particles of Claim 71 or 74 in the Drawings for Reference **attached herewith**. Rather, the metal powders and conductive paste would be expected to have a structure as shown for Shoji et al in said Drawings for Reference, given the suggestion in the examples of Shoji et al, wherein the metal powders, surfactant and vehicle are mixed together and then kneaded to obtain pastes.

Accordingly, it is respectfully requested that the rejection over Shoji et al be withdrawn.

The rejection of claims under 35 U.S.C. § 102(b) as anticipated by U.S. 4,766,027 (Burn), some of these claims also being alternatively rejected under 35 U.S.C. § 103(a) as obvious over Burn, are respectfully traversed.

Burn discloses, *inter alia*, a copper-based conductor paste comprising a fine copper powder, a non-cellulosic binder, and a solvent for the non-cellulosic binder (column 3, lines 34-35), wherein finely divided particles of metallic copper are dispersed in a solution of a non-cellulosic binder and an organic solvent, which is a non-solvent for the organic binder of adjacent green sheets with which it is used (column 3, lines 47-51). Burn also discloses the use of a surfactant to improve dispersion stability (column 5, line 39).

Burn is deficient for the same reasons that Shoji et al is deficient, as discussed above, which reasons are hereby incorporated by reference. In other words, the fine copper powder and conductive paste would be expected to have a structure similar to that shown for Shoji et al in said Drawings for Reference. Accordingly, it is respectfully requested that the rejection over Burn be withdrawn.

Application No. 09/879,043  
Reply to Office Action of January 26, 2005

All of the presently active claims are now believed to be in immediate condition for allowance. The Examiner is respectfully requested to rejoin non-elected claims of even scope, and in the absence of further grounds of rejection, pass this application to issue with all pending claims.

Customer Number

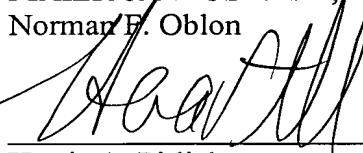
**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 06/04)

NFO:HAP\la

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.  
Norman E. Oblon



---

Harris A. Pitlick  
Registration No. 38,779